FOUR NEW SPECIES OF AMERICAN TINGIDAE

(HEMIPTERA)

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The present paper contains the descriptions of four American species of lace-bugs. Unless otherwise stated, the types are in my collection.

Tingis paranana, new species

Moderately large, broadly ovate, testaceous with veinlets considerably embrowned and variegated with dark fuscous. Head and pronotum (save hind projection) black. Legs and antennae brown. Body beneath black. Reticulations rather densely clothed with long, fine, upright, pale hairs. Antennae moderately clothed with long, straight, pale hairs; segments I and II short, stout, the latter smaller; III moderately long, a little variable in length, approximately twice as long as IV, the latter slightly enlarged apically. Rostrum brown, darkened apically, reaching to base of mesosternum, the channel open behind. Bucculae meeting in front. Orifice distinct. Hypocostal ridge uniseriate. Length, 3.00 mm.; width, 1.45-1.54 mm.

Head with five stout, short spines, the hind pair usually appressed. Pronotum moderately convex, coarsely punctate, tricarinate; carinae thick, each composed of one row of tiny areolae; lateral pair constricted just behind the middle, extending as far anteriorly as base of hood. Hood small, arched above, longer than high, brownish, compressed laterally. Paranota moderately wide, considerably reflexed, angulate opposite humeral angles, there triseriate, biseriate in front. Elytra widest near middle, thence roundly narrowed posteriorly; costal area moderately wide, triseriate, testaceous with some transverse veinlets dark fuscous, the areolae hyaline, moderately large, not arranged in very regular rows; subcostal area narrower, triseriate in widest part, uni- or biseriate behind; discoidal area large, nearly three-fourths as long as elytra, narrowed at both base and apex, widest near middle, there six cells deep, veinlets brown, sometimes partly fuscous; sutural area with veinlets brown or fuscous.

Types.—Holotype ♂, allotype ♀, and numerous paratypes, Parana, Entre Rois, Arg., in Hungarian National Museum. Paratypes also in my collection.

This variegated species resembles somewhat *T. beieri* Drake, of Brazil and Paraguay, but differs in having constricted lateral carinae, costal area triseriate, hood not inflated, and the shape of body.

Leptodictya sinaloana, new species

Small, oblong, testaceous with a few elytral veinlets brownish; hood brownish; head black, shining; pronotum (save testaceous hind part)

black-fuscous, somewhat shining. Body beneath black-fuscous. Appendages, rostral laminae and cephalic spines pale testaceous. Length, 2.75 mm.; width, 1.25 mm.

Head distinctly convex above, with five long, porrect spines, the hind pair longest Bucculae large, brownish, reticulate, with ends meeting in front. Rostrum brownish, black at tip, almost attaining end of sulcus; laminae broad, areolate, with ends barely meeting behind. Orifice with prominent pale rim. Hypocostal laminae uniseriate. Antennae slender, inconspiculously pilose; segment I rather stout, moderately long, larger than II; III three and one-half times as long as IV, the latter moderately hairy, slightly enlarged and brownish apically.

Pronotum moderately convex, punctate, tricarinate, each uniserate, the cells very small; lateral carinae as high as median, from base of disc anteriorly slightly divergent and slightly convex within. Paranota moderately wide, with outer part (one complete row and a few extra cells at middle) reflexed so that the outer margin rests on the surface of the pronotum, the part not reflexed as wide as reflexed part. Hood small, bell-shaped. Elytra moderately broad, considerably longer than the abdomen, with sutural areas partly overlapping but with tips separated; costal area broad, mostly triseriate, with a few extra cells in widest part, the areolae rather large and hyaline; subcostal area narrow, biseriate, the cells very small; discoidal area extending a little beyond middle of elytra, narrowed at both ends, widest near middle, there seven cells deep, the areolae larger with areolae scarcely larger than in costal area. Wings a little longer than abdomen.

Type.—Holotype ♂, Sinaloa, Mex., taken on orchid plants at Inspection Port-of-Entry, Nogales, Ariz., in U. S. National Museum.

Separated at once from other North American members of the genus by the smaller size, form and large cells in costal area.

Gargaphia schulzei, new species

Small, oblong, head and pronotum (hind triangular part testaceous) brown; hood, collar, paranota and carinae whitish testaceous; elytra whitish testaceous with a narrow oblique apical fascia (apical part of subcostal area), a mark beyond middle of vein separating discoidal and subcostal areas and the transverse veinlets between outer row of large cells in costal area dark fuscous. Body beneath brown to dark fuscous, with bucculae and rostral laminae whitish testaceous. Length, 3.00; width, 1.25 mm.

Head with five testaceous spines; anterior pair porrect, short, median spine slender, extremely long, nearly erect, shorter than the first antennal segment; posterior pair of the same size and color as median, leaning a little forward and outward. Eyes black. Antennae long, slender, smooth, with pale hairs on terminal segment; segment I long, moderately incrassate, three times as long as II, the latter moderately long and

slenderer; III approximately three times as long as IV, the latter feebly enlarged and moderately long. Bucculae moderately large, areolate, closed in front. Rostrum brown, with apex darkened, scarcely extending beyond mesosternum; laminae diverging posteriorly, interrupted on metasternum.

Pronotum slightly convex between humeral angles, punctate, areolate behind, tricarinate; median carina higher behind than in front, the cells also distinctly larger posteriorly; lateral carinae higher than the median in front but not as high as it is behind, constricted just behind centre of disc, uniseriate. Paranota moderately wide, moderately reflexed, biseriate, with outer margin gently rounded, the areolae rounded and clear. Hood small compressed laterally, slightly produced in front, highest in front, there not as high as long. Elytra much longer than abdomen, with sides subparallel, obliquely roundly narrowed within at apex, overlapping apically but with apices separated; costal area moderately wide, biseriate, with the outer row very large, with inner row of cells small to widest part, thence larger; subcostal area triseriate, the cells small; discoidal area almost extending to middle of elytra, tri- or quadriseriate in widest part; sutural area with small cells immediately behind discoidal area, the rest of cells large. Wings not much longer than abdomen.

Types.—Holotype ♂, allotype ♀, and 11 paratypes, Asunction, Paragnay, A. Schulte.

Separated from *G. lunulata* (Mayr) by areolation of costal area, elevated median carina posteriorly and the obliquely rounded within apex of each elytron.

Gargaphia socorrona, new species

Short, rather broad, pale testaceous with pronotum largely dark fuscous; some specimens with a few transverse veinlets in costal area dark fuscous and apical part of discoidal area shaded with brown. Body beneath dark fuscous with venter brown. Bucculae and rostral laminae whitish testaceous. Length, 3.00 mm.; width, 1.15 mm.

Head brown, with five long testaceous spines; frontal spines straight, shortest, porrect; median spines longer, straight, porrect; hind pair longest, gently bent outward. Rostrum dark brown or fuscous, barely reaching base of mesosternum. Rostral channel interrupted on metasternum. Legs slender, with short bristly hairs. Bucculae large, areolate, closed in front. Entire body beneath rather densely clothed with fine pale hairs. Antennae moderatly long, slender, rather longly setose; segment I moderately swollen, slightly more than twice as long as II, the latter slenderer and not very short; III three times as long as IV, the latter slightly thickened.

Pronotum moderately convex, pitted, areolate behind; median carina low in front, raised and arched behind centre of disc, biseriate in highest part, mostly uniseriate; lateral carinae not quite as high as median, constricted behind disc, uniseriate, with dorsal vein gently rounded from base to apex. Orifice distinct. Hypocostal laminae uniseriate. Reticula

tion of entire dorsal surface and outer margin of paranota rather densely clothed with very fine pale hairs, these hairs not very conspicuous on elytra; exterior margins of elytra beset with shorter bristly-like spines. Elytra broad, much broader than abdomen with outer margins subparallel, broadly rounded behind, with subcostal areas partly overlapping but with tips a little separated; costal area broad, triseriate, quadriseriate in widest part. The areolae moderately large and clear; subcostal area very narrow, triseriate, with areolae very small and rounded; discoidal area rather large, finely areolate, scarcely attaining middle of elytra, somewhat rounded behind, six or seven areolae deep in widest part, the areolae small and round; sutural area large, with some small areolae just behind discoidal area, the other areolae large. Wings very little longer than abdomen, much shorter than elytra, whitish.

Types.—Holotype ♂, allotype ♀, and paratypes, Socorro Island, Revilla Gigedo Islands, Pacific Ocean, off the Western Coast of Mexico.

This finely hairy little species may be separated from *G. lunulata* (Mayr) and other small species by the arched median carina, bristle-like spines on exterior margins of elytra, quadriseriate costal area in widest part and the long cephalic spines.

A REVIEW OF THE MELANTHRIPINAE WITH DESCRIPTIONS OF TWO NEW SPECIES

(THYSANOPTERA, TEREBRANTIA)

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Previous papers by the writer (1937, 1939, 1940) have covered portions of this group of thrips, namely *Dactuliothrips* and *Ankothrips*. With the present addition of *Melanthrips* to our North American fauna we can evalute more properly some of the rather ambitious taxonomic categories established for certain thrips genera. The 1939 report mentioned the upgrading of the melanthrips group to the status of a family and at the same time we saw no reason to retain the family Dactuliothropidae. Priesner (1949) recognizes only the sub-family Melanthripinae. As time passes and more species are discovered in the Aeolothripoidea, it is probable that even more of the higher level catogries will become unnecessary for such a small group of insects. Newly discovered variations in the armature and sensoria of the species call for a broader concept of the genera rather than setting up new genera or sub-genera for each variation noted.

In addition to the two new species of *Melanthrips* described below we believe it desirable to redescribe and illustrate *Dorythrips* Hood and *Cranothrips* Bagnall to complete the review